



PATENT

2151

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4-20-02  
JPMIN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): David L. Detlefs et al.

Title: LOCK FREE REFERENCE COUNTING

Application No.: 09/837,671

Filed:

April 18, 2002

Examiner: Alvin E. Oberley

Group Art Unit:

2151

Atty. Docket No.: 004-5723

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April 10, 2002

COMMISSIONER FOR PATENTS  
Washington, DC 20231**PRELIMINARY AMENDMENT**

Prior to the first action on the merits, please amend the above-identified application as follows:

In the Specification

Please replace paragraph 1002 on page 1 with the following:

A1 [1002] In addition, this application is related to U.S. Patent Application Publication No.

US 2001/0056420 A1 and U.S. Patent Application Publication No. US 2001/0047361 A1.

U.S. PATENT 6,826,757,

, NOW ALLOWED.

Please replace paragraph 1042 beginning on page 18 with the following:

[1042] In this section, we show how to use our methodology to construct a GC-independent implementation of a concurrent double-ended queue (deque) object, based on a GC-dependent implementation presented in greater detail in U.S. Patent Application Publication

A2 No. US 2001/0056420 A1, entitled "LOCK-FREE IMPLEMENTATION OF CONCURRENT SHARED OBJECT WITH DYNAMIC NODE ALLOCATION AND DISTINGUISHING

yus POINTER VALUE," naming Guy L. Steele Jr., Alexander T. Garthwaite, Paul A. Martin, Nir N.

Shavit, Mark S. Moir and David L. Detlefs as inventors, and filed on even date herewith. The

description, in the above-identified U.S. Patent Application Publication, of a deque object implementation (including supporting data structure representations and access operations)

*A2  
comd.* suitable for use in a garbage-collected storage environment is incorporated herein by reference in its entirety. Hereafter, a class of implementations patterned on such techniques is referred to variously as the "Snark" algorithm, data structure, access operations, implementation, etc.

Please replace paragraph 1044 beginning on page 19 with the following:

*A3* [1044] Transformation of the pushRight access operation is illustrated in significant detail herein. Accordingly, based on the description herein, corresponding transformations of other Snark access operations, e.g., pushLeft, popRight and popLeft will be appreciated by persons of ordinary skill in the art. Indeed, a resultant set of access operations is described in the above-incorporated U.S. Patent Application Publication. Furthermore, U.S. Patent Application Publication No. US 2001/0047361 A1, <sup>A NEW ALLOWED</sup> entitled "CONCURRENT SHARED OBJECT IMPLEMENTED USING A LINKED-LIST WITH AMORTIZED NODE ALLOCATION," naming Paul A. Martin, David L. Detlefs, Alexander T. Garthwaite, Guy L. Steele Jr. and Mark S. Moir as inventors, and filed on even date herewith, which is incorporated herein by reference, describes an explicit reclamation embodiment of another concurrent shared object implementation that was achieved by applying the methodology described herein.

### REMARKS

No new matter has been added. Examination on the merits is respectfully requested.

If the Examiner has any questions, Applicants respectfully request that the Examiner contact the undersigned at the telephone number indicated below.

<u>CERTIFICATE OF MAILING</u>	
I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to Commissioner for Patents, Washington, D.C. 20231 on the date shown below.	
<i>[Signature]</i> David W. O'Brien	<i>10-Apr-02</i> Date

Respectfully submitted,

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